

Certification Summary Information Report

Manufacturer	Yamaha Motor Corporation	Manufacturer Code	YMX
Engine Family	LYMXC.998GEL	Model Year	2020
Certificate Number	LYMXC.998GEL-013-R01	Certificate Issue Date	06/26/2019
Certificate Effective Date	06/26/2019	Certificate Revision Date	09/25/2019

General Information			
Vehicle Category	Highway Motorcycle - III(>-279cc)	Sales Areas of All Vehicles/Engines in This Engine Family	Some 49, Some California
Small Volume Manufacturer Recognition	Regular Volume	Are you Certifying This Vehicle/Engine By Design	No
Manufacturer Code assigned by CARB	YAMA	Parent Company Name	--
EPA Certification Fee Paid Date	06/14/2019	Application Type	Correction
Permeation Family Name	LYMXPMETALF5	Does this Perm Family participate in Average Banking and Trading?	No
Does this EF participate in an EPA and/or CARB emission averaging program?	Yes	Does this EF participate in EPA and/or CARB emission averaging program?	Both
Testing procedure applied for exhaust emissions values	40CFR86, Subpart E: Chassis test	If Other, Please provide EPA/CARB approval ID for this testing procedure	--
Are you the original manufacturer of the certifying vehicle/engine?	Yes		
Vehicle Original Equipment Manufacturer	Country where the Vehicles were assembled	Engine Original Equipment Manufacturer	Country where the Engines were assembled
YAMAHA MOTOR CO., LTD.	JAPAN	YAMAHA MOTOR CO., LTD.	JAPAN
Manufacturer Comments			

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EPA Emission Standards and Certification Levels

EPA Exhaust Emissions units:G/KM				
Air Pollutant	HC	NOx	HC+NOx	CO
Certification Level	0.18		0.2	1.3
Family Emission Limit			0.6	
Emission Standards				12.0
Applicant Notes				

CARB Emission Standards and Certification Levels

CARB HMC Early Compliance Multiplier: 0					Evaporative Emissions (HMC CARB-only) Diurnal + Hot Soak Evaporative Emissions (Unit: g/test):
Air Pollutant	THC	NOx	THC+NOx	CO	LYMXU0016YDA
Certification Level	0.18	0.04	0.2	1.3	0.1
Family Emission Limit			0.6		
Emission Standards			0.8	12	2.0
Emission Useful Life (UL) as applicable	UL (years):5		UL (km):30000		UL (years):5 UL (km):30000
Applicant Notes:	--				

Engine Family Description

Engine Family Useful Life	EPA Required Useful Life		
EF Fuel System Type	Single Fuel System		
	Primary Operating Fuel Type		Fuel Type, If Other
	Gasoline		--
Combustion Cycle	4-Stroke		
Combustion Cycle, If Other			
Cylinder Arrangement	In Line		
Cylinder Arrangement, If Other			
Number of Cylinders	4	Valves per Cylinder	4
Engine Type	Reciprocating (otto cycle)		
Engine Type, If Other			
Engine Cooling Media	Liquid Cooled		
Engine Cooling Media, If Other			
Does this engine family contain multiple displacements?	No	New Technology	No
Technology explanation	--		
Applicant Notes			

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Engine Family	LYMXC.998GEL	Model Year	2020
Exhaust Emission Control Information			
ECS Reference Number	1	Is this engine family equipped with a catalytic converter?	Yes
Total number of catalytic converters	2	Applicable catalytic converter configuration	Parallel
Catalytic converter type used	TWC, double-bed, closed-loop/warm-up		
Catalyst Manufacturer Name	[REDACTED]		
Catalyst Manufacturer Location	[REDACTED]		
Does the engine family use an Exhaust Gas Recirculation (EGR) technology as part of the Emission Control System?	No	Description of the EGR technology used	--
Applicable engine fuel system type	Sequential Multiport FI		
If Other, Enter a description of the fuel system			
Method of air aspiration for the engine	Naturally Aspirated		
Method of engine aspiration, If Other			
Charge Air Cooler Type	No Air Cooler		
Electronic engine control module type	Engine Control Module		
Applicable method of air injection methodology	Pulse Secondary Air Injection		
Air injection methodology, If Other			
Air/fuel feedback sensor used on this engine family	Yes		
Sensor Type	Oxygen Sensors		
Sensor Type, If Other			
Number of feedback sensor(s) used	2		
Configuration of the feedback sensors arrangement	Series		
Applicant Notes	[REDACTED]		

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Engine Family		LYMXC.998GEL		Model Year		2020	
Federal Mandatory Greenhouse Gas (GHG) Reporting							
GHG Name	GHG Value	Unit of GHG Value	Measured/Estimated at Distance (km)	By Method	Test Vehicle ID	Reference/Citations	Test/Estimation Date
CH4	0.018	Grams Per Kilometer	--	Derived results based on EPA GHG default factor	--	40 CFR 86.431-78	N/A
CO2	164.6	Grams Per Kilometer	3546	Tested result from the EDV(s) of the Engine Family	JYARN67Y9LA000001	40 CFR 86.431-78	02/20/2019
N2O	0.008	Grams Per Kilometer	--	Derived results based on EPA GHG default factor	--	40 CFR 86.431-78	N/A
Applicant notes for GHG data							

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Engine Family	LYMXC.998GEL	Model Year	2020
EPA - ONLY Permeation Emissions Control/Test Data			
Fuel Tank Permeation Emissions Details			
Fuel Tank #1			
Permeation Family Name	LYMXPMETALF5	Certification Level (g/m2/day)	0.77
Emission Standard (g/m2/day)	1.5	Family Emission Limit (g/m2/day)	--
Certification Method	Emission tests	Fuel Tank Manufacturer	YAMAHA MOTOR CO.LTD.
Other			
Use Carry-over Test Data?	Yes	If carryover, from Permeation Family	KYMXPMETALF5
Carryover DF	No	If carryover, from DF Permeation Family	--
Tank Material	Metal		
Tank Material if Other			
Control Strategy	Inherently Low/Zero Permeation Material		
Least Thickness (mm)	1	Least Barrier Weight (%)	--
Least Barrier Mol (%)	--	Least Barrier Thickness (mm)	--
Production Method	Other Production Method		
Production Method if Other			
Press			
Test Data (g/m2/day)	0.77	DF (g/m2/day)	0.0
EPA Certificate Number	--		
Fuel Line Permeation Emissions Details			
Fuel Line #1			
Certification Level (g/m2/day)	11.1	Emission Standard (g/m2/day)	15.0
Permeation Emissions Certification Method	Emission tests	Fuel Line Manufacturer	KOKOKU INTECH CO.LTD
Certified By Design LINE	--		
Other			
Use Carry-over Test Data?	Yes	If carryover, from Permeation Family	KYMXPMETALF5
Carryover DF	No	If carryover, from DF Permeation Family	--
Fuel Line Material	Other		
Fuel Line Material			
FKM/ECO			
Least Thickness (mm)	2	Test Results (g/m2/day)	11.14
DF (g/m2/day)	--	EPA Certificate Number	--
Fuel Line #2			
Certification Level (g/m2/day)	10.9	Emission Standard (g/m2/day)	15.0
Permeation Emissions Certification Method	Emission tests	Fuel Line Manufacturer	MEIJI FLOW SYSTEMS
Certified By Design LINE	--		

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Other			
Use Carry-over Test Data?	Yes	If carryover, from Permeation Family	KYMXPMETALF5
Carryover DF	No	If carryover, from DF Permeation Family	--
Fuel Line Material	Other		
Fuel Line Material			
PA11			
Least Thickness (mm)	1	Test Results (g/m2/day)	10.87
DF (g/m2/day)	--	EPA Certificate Number	--
Comments			
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Engine Family	LYMXC.998GEL	Model Year	2020
Models Covered			
Model #1			
Reference Model Number	1	Final Assembly Manufacturer Name	Yamaha Motor Co., Ltd.
Manufacturer Model Name	YZF1000	Commercial / Advertised Model Name	YZFR1LL
Engine Code	N535	Vehicle Category	HMC:Class III
Evaporative Family (CARB)	--	Number of Evaporative Canisters (CARB)	1
Displacement (cc)	998	Bore (mm)	79.0
Stroke (mm)	50.9	Basic Ignition Timing (degrees, BTDC)	5
Rated Power (kW)	139.7	RPM @ Rated Power	12000
Rated Torque (nt-m)	112.4	RPM @ Rated Torque	11500
N/V Ratio	45.1	Curb Mass (kg)	207
Equivalent Inertial Mass (kg)	290	Loaded Vehicle Mass (kg):	287
Transmission (e.g. M5, A3, etc.)	M6		
Vehicle Emission Compliance Information (VECI) Label Type			
49-state Sales w/ 49-state Label			
Fuel System			
Emission Control System (model / rating specific)	1	Projected Sales (CBI) - CA Only	
Projected Sales (CBI) - US Total (includes CA Sales)		Projected Sales (CBI) - US (49-States)	
Mfr Previously Exempted?	--		
Permeation Family Name (s)	LYMXPMETALF5		
Applicant Notes			
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Model #2			
Reference Model Number	2	Final Assembly Manufacturer Name	Yamaha Motor Co., Ltd.
Manufacturer Model Name	YZF1000	Commercial / Advertised Model Name	YZFR1LB
Engine Code	N535	Vehicle Category	HMC:Class III
Evaporative Family (CARB)	--	Number of Evaporative Canisters (CARB)	1
Displacement (cc)	998	Bore (mm)	79.0
Stroke (mm)	50.9	Basic Ignition Timing (degrees, BTDC)	5
Rated Power (kW)	139.7	RPM @ Rated Power	12000
Rated Torque (nt-m)	112.4	RPM @ Rated Torque	11500
N/V Ratio	45.1	Curb Mass (kg)	207
Equivalent Inertial Mass (kg)	290	Loaded Vehicle Mass (kg):	287
Transmission (e.g. M5, A3, etc.)	M6		
Vehicle Emission Compliance Information (VECI) Label Type			
49-state Sales w/ 49-state Label			
Fuel System			
Emission Control System (model / rating specific)	1	Projected Sales (CBI) - CA Only	




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Engine Family	LYMXC.998GEL	Model Year	2020
Projected Sales (CBI) - US Total (includes CA Sales)		Projected Sales (CBI) - US (49-States)	
Mfr Previously Exempted?	--		
Permeation Family Name (s)	LYMXPMETALF5		
Applicant Notes			
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Model #3			
Reference Model Number	3	Final Assembly Manufacturer Name	Yamaha Motor Co., Ltd.
Manufacturer Model Name	YZF1000C	Commercial / Advertised Model Name	YZFR1LCL (Cal model)
Engine Code	N535	Vehicle Category	HMC:Class III
Evaporative Family (CARB)	LYMXU0016YDA	Number of Evaporative Canisters (CARB)	1
Displacement (cc)	998	Bore (mm)	79.0
Stroke (mm)	50.9	Basic Ignition Timing (degrees, BTDC)	5
Rated Power (kW)	139.7	RPM @ Rated Power	12000
Rated Torque (nt-m)	112.4	RPM @ Rated Torque	11500
N/V Ratio	45.1	Curb Mass (kg)	207
Equivalent Inertial Mass (kg)	290	Loaded Vehicle Mass (kg):	287
Transmission (e.g. M5, A3, etc.)	M6		
Vehicle Emission Compliance Information (VECI) Label Type	California Sales w/ California Label		
Fuel System			
Emission Control System (model / rating specific)	1	Projected Sales (CBI) - CA Only	
Projected Sales (CBI) - US Total (includes CA Sales)		Projected Sales (CBI) - US (49-States)	
Mfr Previously Exempted?	--		
Permeation Family Name (s)	LYMXPMETALF5		
Applicant Notes			
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Model #4			
Reference Model Number	4	Final Assembly Manufacturer Name	Yamaha Motor Co., Ltd.
Manufacturer Model Name	YZF1000C	Commercial / Advertised Model Name	YZFR1LCB (Cal model)
Engine Code	N535	Vehicle Category	HMC:Class III
Evaporative Family (CARB)	LYMXU0016YDA	Number of Evaporative Canisters (CARB)	1
Displacement (cc)	998	Bore (mm)	79.0
Stroke (mm)	50.9	Basic Ignition Timing (degrees, BTDC)	5
Rated Power (kW)	139.7	RPM @ Rated Power	12000
Rated Torque (nt-m)	112.4	RPM @ Rated Torque	11500
N/V Ratio	45.1	Curb Mass (kg)	207
Equivalent Inertial Mass (kg)	290	Loaded Vehicle Mass (kg):	287

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Engine Family	LYMXC.998GEL	Model Year	2020
Transmission (e.g. M5, A3, etc.)	M6		
Vehicle Emission Compliance Information (VECI) Label Type	California Sales w/ California Label		
Fuel System			
Emission Control System (model / rating specific)	1	Projected Sales (CBI) - CA Only	
Projected Sales (CBI) - US Total (includes CA Sales)		Projected Sales (CBI) - US (49-States)	
Mfr Previously Exempted?	--		
Permeation Family Name (s)	LYMXPMETALF5		
Applicant Notes			
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Model #5			
Reference Model Number	5	Final Assembly Manufacturer Name	Yamaha Motor Co., Ltd.
Manufacturer Model Name	YZF1000D	Commercial / Advertised Model Name	YZFR1ML
Engine Code	N535	Vehicle Category	HMC:Class III
Evaporative Family (CARB)	--	Number of Evaporative Canisters (CARB)	1
Displacement (cc)	998	Bore (mm)	79.0
Stroke (mm)	50.9	Basic Ignition Timing (degrees, BTDC)	5
Rated Power (kW)	139.7	RPM @ Rated Power	12000
Rated Torque (nt-m)	112.4	RPM @ Rated Torque	11500
N/V Ratio	44.4	Curb Mass (kg)	208
Equivalent Inertial Mass (kg)	290	Loaded Vehicle Mass (kg):	288
Transmission (e.g. M5, A3, etc.)	M6		
Vehicle Emission Compliance Information (VECI) Label Type	49-state Sales w/ 49-state Label		
Fuel System			
Emission Control System (model / rating specific)	1	Projected Sales (CBI) - CA Only	
Projected Sales (CBI) - US Total (includes CA Sales)		Projected Sales (CBI) - US (49-States)	
Mfr Previously Exempted?	--		
Permeation Family Name (s)	LYMXPMETALF5		
Applicant Notes			
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Model #6			
Reference Model Number	6	Final Assembly Manufacturer Name	Yamaha Motor Co., Ltd.
Manufacturer Model Name	YZF1000DC	Commercial / Advertised Model Name	YZFR1MLC (Cal model)
Engine Code	N535	Vehicle Category	HMC:Class III
Evaporative Family (CARB)	LYMXU0016YDA	Number of Evaporative Canisters (CARB)	1
Displacement (cc)	998	Bore (mm)	79.0

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Engine Family	LYMXC.998GEL	Model Year	2020
Stroke (mm)	50.9	Basic Ignition Timing (degrees, BTDC)	5
Rated Power (kW)	139.7	RPM @ Rated Power	12000
Rated Torque (nt-m)	112.4	RPM @ Rated Torque	11500
N/V Ratio	44.4	Curb Mass (kg)	209
Equivalent Inertial Mass (kg)	290	Loaded Vehicle Mass (kg):	289
Transmission (e.g. M5, A3, etc.)	M6		
Vehicle Emission Compliance Information (VECI) Label Type	California Sales w/ California Label		
Fuel System			
Emission Control System (model / rating specific)	1	Projected Sales (CBI) - CA Only	
Projected Sales (CBI) - US Total (includes CA Sales)		Projected Sales (CBI) - US (49-States)	
Mfr Previously Exempted?	--		
Permeation Family Name (s)	LYMXPMETALF5		
Applicant Notes			
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